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U.S. Patent Application No. 10/520,075

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Amendments to the Claims:

1. (previously amended) An optical assembly having a top and bottom orientation and comprising:
a platform defining an upward-facing V-groove with walls of a certain pitch;
a first optical component having a substrate with a downward-facing reference surface and two sides, each side being beveled at said certain pitch outwardly from said reference surface, and comprising at least one optical element secured to said reference surface, said optical element having a first optical axis, said first optical component being supported by said platform solely by the contact of said sides against said walls;
and
a second optical component having an outer periphery with at least two contact points and a second optical axis, said second optical component being disposed in said V-groove such that said contact points contact said walls of said V-groove and said second optical axis is coaxial with said first optical axis.
2. Cancelled
3. (original) The optical assembly of claim 1, wherein said optical element is one of an active device, a passive device, or a switching device.
4. (original) The optical assembly of claim 3, wherein said optical element is a semiconductor.
5. (currently amended) The optical assembly of claim 2, wherein said first optical component comprises a plurality of optical elements secured to said substrate.
6. (original) The optical assembly of claim 5, wherein said optical elements comprise a laser diode and a monitor diode optically connected to said laser diode.

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7. (currently amended) The optical assembly of claim 6, wherein said laser diode and monitor diode are optically ~~connector~~connected via a waveguide in said substrate.
8. (original) The optical assembly of claim 1, wherein said substrate comprises the same material as said platform.
9. (original) The optical assembly of claim 8, wherein said same material is silicon.
10. (original) The optical assembly of claim 9, wherein said certain pitch is 57.4° .
11. (original) The optical assembly of claim 1, wherein said second optical component is a ferrule containing a fiber.
12. (previously amended) The optical assembly of claim 1, wherein said second optical component comprises a substrate having a second reference surface and beveled sides extending outwardly from said second reference surface at said certain pitch, said two contact points being located on said beveled sides.
13. (original) The optical assembly of claim 1, wherein said first and second optical axis are below the top surface of said platform.
14. (original) The optical assembly of claim 1, wherein the distance across said V-groove at said top surface is greater than the distance across said second optical component.
15. (original) The optical assembly of claim 1, wherein each side of said first component is a portion of a V-groove.

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16. (currently amended) A method of preparing a first optical component for incorporation into an optical subassembly, said optical subassembly having a top and bottom orientation and comprising a platform defining an upward-facing V-groove with walls of a certain pitch; said method comprising:

(a) defining, in a single photolithography step, the location of

(i) at least two parallel V-grooves in a wafer to define at least one center portion having a reference surface between two V-grooves and a side portion on either side of said center portion; and

(ii) ~~(b)~~ defining a fiducial location for mounting a first optical element on said center portion between said parallel V-grooves, said fiducial being a certain distance relative to said parallel V-grooves;

~~(be)~~ etching said V-grooves to define side walls of the center portion;

~~(cd)~~ creating a fiducial at said fiducial location;

~~(de)~~ securing an optical element to said center portion relative to said fiducial;

and

~~(ef)~~ separating said side portions from said center portion along said V-grooves to define said first optical component;

~~(fg)~~ inverting said first optical component in said upwardly-facing V-groove of said platform such that said first optical component is supported by said platform solely by the contact of said sides against said walls.

17. (original) The method of claim 16, wherein steps (a) and (b) are performed in a single photolithography step.

18. (original) The method of claim 16, wherein step ~~(be)~~ is performed by wet etching.

19. (original) The method of claim 16, wherein said step ~~(fg)~~ is performed after steps (a), (b), and (c) ~~and (d)~~.

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20. (currently amended) The method of claim 16, wherein in step (a), defining said at least two parallel V-grooves comprises defining more than two parallel V-grooves are defined such that at least one side portion forms a center portion of a different first optical component.

21. (original) The method of claim 16, wherein said fiducial is a certain pattern of first solder pads on said center portion and step (e) comprises depositing solder material in said pattern.

22. (currently amended) The method of claim 21, wherein said first optical element comprises second solder pads arranged in said certain pattern and step (d) comprises passively placing said optical element over said first solder pads and then reflowing the solder material of said first and second solder pads such that the surface tension of said solder material aligns said first solder pads over said second solder pads and thereby aligns said optical element on said center portion.

23. (previously presented) The optical assembly of claim 1, wherein said first optical component comprises a downward-facing edge surface at the top of at least one of said sides, and said platform having a top surface, said first optical component being disposed in said V-groove such that a gap exists between said top surface and said downward-facing edge surface.

24. (previously presented) The method of claim 16, wherein said first optical component comprises a downward-facing edge surface at the top of at least one of said sides, and said platform having a top surface, said first optical component being disposed in said V-groove such that a gap exists between said top surface and said downward-facing edge surface.